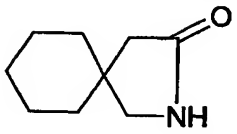
We Claim

1. An improved process for the preparation of gabalactam of the formula 1



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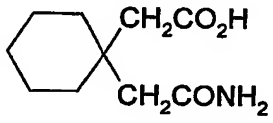
Which comprises

(i) Preparing an aqueous solution of an alkali or alkaline earth hydroxide in a concentration ranging from 10 to 20% by weight,, adding bromine to the resulting solution to give the appropriate alkali or alkaline earth hypobromite solution having a concentration ranging from 5 to 10% by weight ,

(ii) adding 1 part by weight of an amide of the formula 4



4

to 7.5 to 9.5 parts by weight, of the solution of the alkali/alkaline earth hypobromite obtained in step (i) during a period in the range of 1 – 4 hours, at a temperature in the range of –10 to + 10 degrees C ,

(iii) Keeping the resultant mixture for ageing in the temperature in the range of –10 to +10degree C for a period in the range of 0.5 to 2 hours,

(iv) Heating the mixture gradually to a temperature in the range of 80 to 100 degrees C , for a period in the range of 3 to 8 hours,

(v) Cooling the reaction mixture to a temperature in the range of 30 to 50 degrees C,

(vi) Extracting the mixture using a nonpolar solvent or a mixture thereof,

(vii) subjecting the resulting organic layer washed aqueous layer to the steps of (iii) to (v) defined above

(viii) Combining the organic layers obtained in steps((vi) & (vii) together

(ix) washing resulting combined organic layers with water at a temperature in the range of 30-35 and

(x) Distilling of the organic solvent at a temperature in the range of 60-110 deg C, under reduced pressure.

2. An improved process as claimed in claim1 wherein in the step (i) the alkali used is an alkali hydroxide, more preferably sodium hydroxide

3. An improved process as claimed in claims 1 & 2 wherein in the step (i) the concentration of the alkali / alkaline earth solution is in a range from 10 to 15% more preferably 12.5%.

4. An improved process as claimed in claims 1 to 3 wherein in the concentration of the hypobromite is in the range of 5 to 8 % and more preferably 7% by weight.

5 An improved process as claimed in claims 1 to 4 wherein the amount of hypobromite added is in the range of 8 to 9 parts, more preferably 8.5 to 9 parts of the solution of sodium hypobromite.

6.An improved process as claimed in claims 1 to 5 wherein the addition is effected during a period ranging form 1 – 3 hours, more preferably 1-2 hours.

7. An improved process as claimed in claims 1 to 6 wherein the temperature employed during the addition is maintained at preferably –5 to +5 degrees C, more preferably –5 to 0 degrees C

8. An improved process as claimed in claims 1 to 7 wherein the aging of the reaction mixture is effected at a temperature in the range of –5 to –0 degree C ,preferably for a period in the range of 0.5 to 1.5 hrs and more preferably for 1 hr.

9.An improved process as claimed in claims 1 to 8 wherein in the step (iii) the heating is effected preferably at a temperature in the range of 80 to 90 degrees C, more preferably 80 to 85 degrees C.

10.An improved process as claimed in claim 9 wherein the heating is effected during a period of 4 to 6 hours, more preferably for 4 hours

11. An improved process as claimed in claims 1 to 10 wherein the cooling is effected to a temperature in the range of 35 to 45 degrees C , more preferably 40 degrees C ,

12. An improved process as claimed in claims 1 to 11 wherein the extraction is done using an aliphatic or aromatic hydrocarbon solvent such as ethylene dichloride, methylene dichloride, hexane and toluene and more preferably an aromatic solvent like toluene.

13. An improved process as claimed in claims 1 to 12 wherein the organic solvent extracted aqueous layer is once again heated to a temperature in the range of 80-100 deg C during a period of 3-8 hrs, aged for 5-8 hrs cooled and re-extracted with toluene.

14. An improved process as claimed in claims 1 to 13 wherein the combined organic layers is treated with charcoal for removing any coloring matter present in it

15. An improved process as claimed in claims 1 to 14 wherein the distilling of the organic solvent is done preferably between 60-90 deg C and more preferably between 60-65 deg C